2) Develop a java program to create a class Student with members USN, name, an array credits and an array marks. Include methods to accept and display details and a method to calculate SGPA of a student.

```java
import java.util.Scanner;
class Student
{
    String name;
    String USN;
    int credits [] = new int [5];
    int marks [] = new int [5];
    double sgpa = 0.0;
    double cgpa;
    int grade [] = new int [5];

    double calculate (int m [], int c [])
    {
        int j;
        double sum = 0.0;
        int div = 0;
        for (j = 0; j < 5; j++)
        {
            if (m [j] != 100)
            {
                grade[j] = (m[j] + 10)/10;
            }
            else
```

```java
        {
            grade [j] = 10;
        }

        div = credits [j] + div;
        sum = sum + ( grade [j] * credits [j] );
        System. out. print ln ("Grade for subject"
        + (j+1) + ":" + grade [j]);
    }

    sgpa = sum / div;
    System. out. print ln ("SGPA:" + sgpa);
    return sgpa;
}


double calcgpa (double sgpa1, double sgpa2)
{
    cgpa = (sgpa1 + sgpa2) / 2;
    return cgpa;
}


void input ()
{
    Scanner sc = new Scanner (System. in);
    System. out. print ln (" Enter subject credit for semester:");
    int i;
    for (i = 0; i < 5; i++)
    {
        credits [i] = sc. next Int ();
    }
}
```

```java
System.out.println("Enter marks for subject :");
for (i=0; i<5; i++)
{
    marks[i] = sc.nextInt();
}
}


public static void main (String args[]) {
Scanner sc1 = new Scanner (System.in);
System.out.println("Enter number of students");
int n = sc1.nextInt();
Student obj[] = new Student[n];
int K;
for (K=0; K<n; K++)
{
obj[K] = new Student();
System.out.println("Enter student name.");
name = sc1.nn;
System.out.println("Enter student USN");
USN = sc1.nextLine();
obj[K].input();
System.out.println("Semester 1");
double result = obj[K].calculate(obj[K].marks,
obj[K].credits);
System.out.println("1st Semester SGPA for" + obj[K].name
+ "(" + obj[K].USN + ") is : " + result);
System.out.Println("Semester 2");
obj[K].input();
```

```java
double result 2 = obj [K]. calculate (obj [K].marks,
obj [K]. credits );
System. out. println (" 2nd Semester SGPA for"
+ obj [K]. name + "(" + obj [K]. USN + ") is : " + result 2);
System. out. println ("CGPA for 1st year is : "
+ obj [K]. calcgpa ( result , result 2));
        }
    }
}
```

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Output
Enter number of students
1
Enter student name
Abhinav
Enter student USN
1
Enter subjects credits for semester
3
3
3
3
3
3
3
3

Enter marks
85
90
91
90
89
78
70
95
Semester 1
Grade for subject 1 : 9
Grade for subject 2 : 10
Grade for subject 3 : 10
Grade for subject 4 : 10
Crade for subject 5 : 9
Grade for subject 6 : 8
Grade for subject 7 : 8
Grade for subject 8 : 10
SGPA = 9-25
1st semester SGPA for null (null) is : 9.25
Semester 2
Enter credits
3
3
3
3
3
3
3
3

Enter marks
90
98
95
96
87
85
80
89
Grade for subject 1 = 10
Grade for subject 2 = 10
         subject 3 : 10
         subject 4 : 10
         subject 5 : 9
         subject 6 : 9
         subject 7 : 9
         subject 8 : 9
SGPA : 9.5
2nd semester SGPA for null (null) is: 9.5
CGPA for first year is : 9.375

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